

APNG (D-2): sc-390684

BACKGROUND

Maintenance of DNA sequences is necessary for vertebrates and other life. DNA is under constant stress by a plethora of DNA-damaging agents present in both the environment and within cells. The potentially deleterious effects of DNA lesions in cells are elegantly resolved by sophisticated DNA repair systems, including base excision repair (BER), nucleotide excision repair (NER) and DNA repair methyltransferase (MTase). Methylated bases, such as 3-methyladenine (3MeA) and 7-methylguanine (7MeG) can be formed by agents in the environment and by endogenous cellular processes. Consequently, in the absence of exposure to environmental agents, DNA methylation damage can be incurred on the genomic DNA of normal mammalian cells. DNA N-glycosylases are base excision-repair proteins that locate and cleave damaged bases from DNA as the first step in restoring the sequence. 3MeA DNA glycosylases initiate base excision repair by removing 3MeA. These glycosylases also remove a broad spectrum of spontaneous and environmentally induced base lesions. The human N-methylpurine-DNA glycosylase gene maps to chromosome 16p13.3 and encodes a 298 amino acid protein, known as APNG.

REFERENCES

1. O'Connor, T.R. 1993. Purification and characterization of human 3-methyladenine-DNA glycosylase. *Nucleic Acids Res.* 21: 5561-5569.
2. Friedberg, E.C., et al. 1995. *DNA Repair and Mutagenesis*. Washington, DC: ASM Press.
3. Allan, J.M., et al. 1998. Mammalian 3-methyladenine DNA glycosylase protects against the toxicity and clastogenicity of certain chemotherapeutic DNA cross-linking agents. *Cancer Res.* 58: 3965-3973.
4. Smith, S.A., et al. 2000. *In vivo* repair of methylation damage in Aag 3-methyladenine DNA glycosylase null mouse cells. *Nucleic Acids Res.* 28: 3294-3300.

CHROMOSOMAL LOCATION

Genetic locus: MPG (human) mapping to 16p13.3.

SOURCE

APNG (D-2) is a mouse monoclonal antibody raised against amino acids 67-298 mapping at the C-terminus of APNG of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APNG (D-2) is available conjugated to agarose (sc-390684 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390684 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390684 PE), fluorescein (sc-390684 FITC), Alexa Fluor® 488 (sc-390684 AF488), Alexa Fluor® 546 (sc-390684 AF546), Alexa Fluor® 594 (sc-390684 AF594) or Alexa Fluor® 647 (sc-390684 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390684 AF680) or Alexa Fluor® 790 (sc-390684 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

APNG (D-2) is recommended for detection of APNG of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for APNG siRNA (h): sc-37390, APNG shRNA Plasmid (h): sc-37390-SH and APNG shRNA (h) Lentiviral Particles: sc-37390-V.

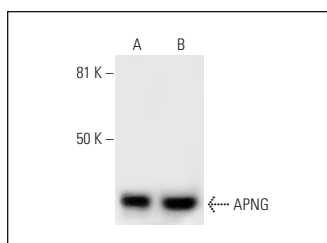
Molecular Weight of APNG: 33 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Caki-1 cell lysate: sc-2224 or HeLa nuclear extract: sc-2120.

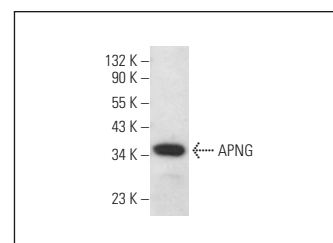
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



APNG (D-2): sc-390684. Western blot analysis of APNG expression in HeLa nuclear extract (A) and Caki-1 whole cell lysate (B).



APNG (D-2): sc-390684. Western blot analysis of APNG expression in Hep G2 whole cell lysate.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.